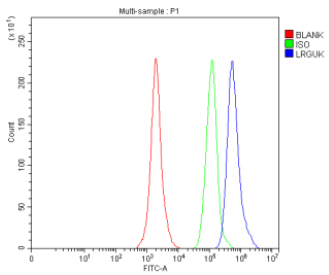
LRGUK Antibody / Leucine-rich repeat and guanylate kinase domain-containing protein (FY12662)

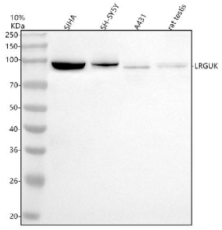
Catalog No.	Formulation	Size
FY12662	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q96M69
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This LRGUK antibody is available for research use only.



Flow Cytometry analysis of SH-SY5Y cells using anti-LRGUK antibody. Overlay histogram showing SH-SY5Y cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-LRGUK antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of LRGUK using anti-LRGUK antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human SIHA whole cell lysates, Lane 2: human SH-SY5Y whole cell lysates, Lane 3: human whole cell lysates, Lane 4: rat testis tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-LRGUK antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A specific band was detected for LRGUK at approximately 94 kDa. The expected molecular weight of LRGUK is ~94 kDa.

Description

LRGUK antibody detects Leucine-rich repeat and guanylate kinase domain-containing protein, a testis-specific protein that plays a critical role in spermatogenesis and sperm flagellar assembly. LRGUK acts as a scaffolding protein that connects the axoneme and peri-basal body structures necessary for sperm motility and morphology. The LRGUK antibody is widely used in reproductive biology and developmental studies to examine flagellar biogenesis, male fertility, and cytoskeletal organization.

LRGUK is encoded by the LRGUK gene located on human chromosome 7q22.1. The protein is approximately 1,453 amino acids in length and contains multiple leucine-rich repeats and a C-terminal guanylate kinase-like domain that mediates protein-protein interactions. LRGUK localizes to the distal centriole, connecting piece, and midpiece of developing spermatozoa, where it interacts with structural and motor proteins involved in axonemal extension.

The LRGUK antibody detects a 165 kilodalton protein by western blot and shows strong localization in elongating spermatids under immunohistochemistry. LRGUK functions as a molecular linker between microtubules and accessory structures such as the mitochondrial sheath, ensuring proper flagellar alignment and motility. Mutations or knockouts of LRGUK in animal models result in immotile sperm with abnormal tail formation, leading to infertility.

Beyond the testis, low levels of LRGUK expression have been reported in ciliated epithelial tissues, suggesting additional roles in ciliogenesis. By anchoring structural elements within motile cilia, LRGUK contributes to coordinated movement and fluid transport in the respiratory and reproductive tracts.

Because LRGUK serves as a key structural determinant of flagellar integrity and motility, it represents an important marker for studying male reproductive health and cytoskeletal organization. NSJ Bioreagents provides a validated LRGUK antibody optimized for its applications, supporting research into sperm structure, cilia biology, and fertility disorders.

Application Notes

Optimal dilution of the LRGUK antibody should be determined by the researcher.

Immunogen

E.coli-derived human LRGUK recombinant protein (Position: E277-E605) was used as the immunogen for the LRGUK antibody.

Storage

After reconstitution, the LRGUK antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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